

ABSTRACT OF THE DISCLOSURE

A control system capable of controlling a heater that heats an oxygen concentration detector in a fine-grained, efficient, and optimal manner. The control system controls an O₂ heater for heating an O₂ sensor provided in an exhaust pipe of an internal combustion engine, when the engine is started. An ECU sets a duty ratio of a control signal supplied to the O₂ heater to a first predetermined value until a first predetermined time period has elapsed after the start of the engine was detected, and sets the same to a second predetermined value smaller than the first predetermined value until a second predetermined time period has elapsed after the lapse of the first predetermined value. Further, the ECU sets the duty ratio of the control signal to a third predetermined value smaller than the second predetermined value after the lapse of the second predetermined time period.